

REMARKS

Entry of the foregoing, re-examination and reconsideration of the subject matter identified in caption, pursuant to and consistent with 37 C.F.R. §1.112, and in light of the remarks which follow are respectfully requested.

Claims 26, 28, 34-36, 40 and 46-53 have been further amended in response to issues raised in the Office Action mailed April 16, 2003. Claims 24-58 are pending in this application.

Applicants believe that the Amendment/Reply filed January 30, 2003, fully addressed all issues raised in the Office Action mailed September 30, 2002. Applicants note the Examiner's position that certain terminology has not be "clarified." The Examiner may not believe that Applicants' reply to certain issues fully clarified the issue, but Applicants did make a bona fide effort to respond, albeit not to the Examiner's satisfaction.

The scope of the term "true trimer" would be clear to those of ordinary skill in this art upon reviewing the disclosure, particularly page 1, lines 19-30. It refers to isocyanate condensates having one trimer unit as opposed to condensates having a higher degree of polymerization.

Regarding the issue of producing biurets, attention is directed to the disclosure at page 16, lines 19-22 which refers to French Patent 86/12524 for a teaching of how to prepare condensates containing biuret units.

Regarding claim 25, those of ordinary skill would recognize that the term (cyclo)trimerization is intended to generically encompass cyclic condensates (e.g.,

containing cyclic isocyanurate groups) as well as non-cyclic condensates (e.g., containing biuret groups or groups of the formula $Q-\text{O}-\text{CO}-\text{N}$).

Regarding claims 26 and 28, the word "may" has now been removed. Also, "n" clearly refers to the number of repeating groups of the formula $\begin{array}{c} \text{O} \\ \parallel \\ -\text{O}-\text{C}-\text{N}- \end{array}$. The phrase "derived isocyanate function" is defined on page 6, lines 20-22 of the disclosure and thus, those of ordinary skill would be apprised of the scope of the claims containing this phrase.

The Examiner's objection to the term "desired degree of conversion" was addressed on page 13, lines 1-4 of the response filed January 30, 2003. If the Examiner believes that Applicants' response is unconvincing, he is invited to respond by addressing Applicants' argument that the specification including the working examples would readily apprise those of ordinary skill of the scope and content of the claims. In any event, to expedite matters, the term has been amended in claim 40 to eliminate the word "desired."

With respect to claim 45, Applicants respectfully submit that the scope of the claim would be clear to those of ordinary skill: at least 25 wt. % of the total product from step (b) is mixed with the reaction product of step (a). Applicants see no indefiniteness in the claim.

With respect to the term "reduced-viscosity" in claims 46-53, Applicants believe those of ordinary skill would appreciate the scope and content of the claims based upon the present disclosure and the knowledge possessed by those skilled in the art. However, to expedite prosecution of this application, the term "reduced-viscosity" has been removed from claims 46-53.

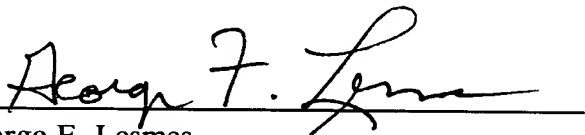
The errors noted at the bottom of the Office Action regarding claim 26 and 34-36 have been corrected. Thus, the structure and text of claim 26 has been amended and the word "hetero" has been removed. Examples of other atoms are defined on page 6, lines 4-5. The word "of" has been corrected in claims 34-36.

Applicants have responded to all issues raised in the latest Office Action. Accordingly, a prompt re-examination of the application on the merits is earnestly solicited.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order and such action is earnestly solicited. If the Examiner has any questions regarding this paper or the application in general, he is invited to telephone the undersigned at (703) 838-6683.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: 
George F. Lesmes
Registration No. 19,995

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620

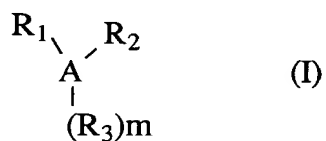
Date: May 6, 2003

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Marked-up Claims 26, 28, 34-36, 40 and 46-53

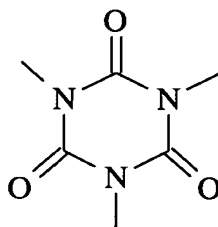
Please replace claims 26, 28, 34-36, 40 and 46-53 as follows:

26. (Twice Amended) The process of claim 24 or claim 25, wherein the tricondensate polyfunctional [isocyanates] isocyanate has the following general formula:



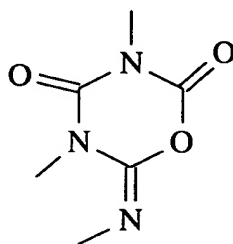
in which A represents:

- an isocyanurate group of formula:



:

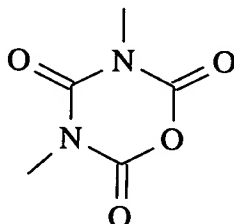
- an imino-oxadiazine-dione of the following formula:



- an oxadiazine-trione of the following formula:

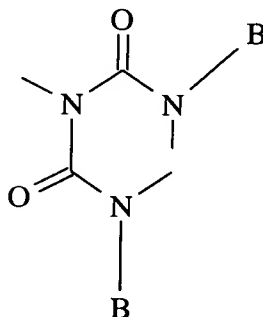
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Marked-up Claims 26, 28, 34-36, 40 and 46-53



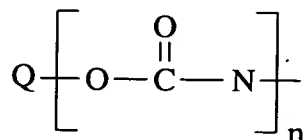
[- an oxadiazine-trione of the following formula:]

a biuret group of formula



B being H or a C₁₋₂₀ group containing optionally, other [hetero] atoms; or

- a group of formula:



and in which R₁, R₂ and R₃, [which may be] identical or different, represent a group containing carbon and hydrogen, comprising a true or derived isocyanate function,

Q is a group, as defined for R₁ to R₃,

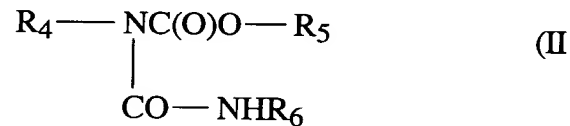
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m is an integer from 0 to 1,

n is the integer 3 or 4.

28. (Twice Amended) The process of claim 24 or claim 25, wherein the allophanates are of the following formula II:



in which:

- R₄ and R₆, [which may be] identical or different, represent a group containing carbon and hydrogen comprising a true or derived isocyanate function,
- R₅ represents an alkyl group.

34. (Twice Amended) The process according [of] to claim 24 or claim 25, wherein tris-allophanates are less than or equal to 30%, relative to the total weight of the allophanate.

35. (Twice Amended) The process according [of] to claim 24 or claim 25, wherein tris-allophanates are less than or equal to 20%, relative to the total weight of the allophanate.

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Marked-up Claims 26, 28, 34-36, 40 and 46-53

36. (Twice Amended) The process according [of] to claim 24 or claim 25, wherein tris-allophanates are less than or equal to 15%, relative to the total weight of the allophanates.

40. (Amended) A process for preparing a low-viscosity tricondensate polyfunctional isocyanate composition, comprising the following steps a) and b) in any order:

a) (cyclo)condensating, in the presence of a catalyst, of one or more identical or different first isocyanate monomer(s) until [the desired] a degree of conversion is obtained;

b) reacting one or more second isocyanate monomer(s) which are identical to or different from one another and identical to or different from the first isocyanate monomer(s), with an alcohol to form a carbamate, the reaction optionally being catalyzed, and simultaneous or subsequent reaction of the carbamate with one or more isocyanate monomer(s) which are identical to or different from the previous monomers, to give an allophanate or mixture of allophanates;

and steps c) and d) in any order:

c) mixing the reaction product from step a) with all or some of the reaction product from step b) and optionally

d) removing the isocyanate monomers.

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Marked-up Claims 26, 28, 34-36, 40 and 46-53

46. (Amended) A [reduced-viscosity] tricondensate polyfunctional isocyanate composition comprising at least one true tricondensate polyfunctional isocyanate and at least one primary allophanate, said composition comprising less than 10% of tricondensate allophanates relative to the total weight of the composition.

47. (Amended) A [reduced-viscosity] tricondensate polyfunctional isocyanate composition comprising at least one true tricondensate polyfunctional isocyanate and at least one primary allophanate, said composition comprising less than 8% of tricondensate allophanates relative to the total weight of the composition.

48. (Amended) A [reduced-viscosity] tricondensate polyfunctional isocyanate composition comprising at least one true tricondensate polyfunctional isocyanate and at least one primary allophanate, said composition comprising less than 5% of tricondensate allophanates relative to the total weight of the composition.

49. (Amended) A [reduced-viscosity] tricondensate polyfunctional isocyanate composition comprising at least one true tricondensate polyfunctional isocyanate and at least one primary allophanate, said composition comprising less than 4% of tricondensate allophanates relative to the total weight of the composition.

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Marked-up Claims 26, 28, 34-36, 40 and 46-53

50. (Amended) A [reduced-viscosity] tricondensate polyfunctional isocyanate composition comprising at least one true tricondensate polyfunctional isocyanate and at least one primary allophanate, said composition comprising less than 3 % of tricondensate allophanates relative to the total weight of the composition.

51. (Amended) A [reduced-viscosity] tricondensate polyfunctional isocyanate composition comprising at least one true tricondensate polyfunctional isocyanate and at least one primary allophanate, said composition comprising less than 2 % of tricondensate allophanates relative to the total weight of the composition.

52. (Amended) A [reduced-viscosity] tricondensate polyfunctional isocyanate composition comprising at least one true tricondensate polyfunctional isocyanate and at least one primary allophanate, said composition comprising less than 1 % of tricondensate allophanates relative to the total weight of the composition.

53. (Twice Amended) A [reduced-viscosity] tricondensate polyfunctional isocyanate composition, comprising at least one true tricondensate polyfunctional isocyanate and at least one allophanate, said composition satisfying at least one of the following conditions:
- a G ratio defined by:

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Marked-up Claims 26, 28, 34-36, 40 and 46-53

true tricondensate polyisocyanates, obtained from the condensation of three identical or different isocyanate molecules not modified with carbamate or allophanate

G= _____

sum of the polyisocyanate molecules bearing at least one tricondensate function

obtained from the condensation of three identical or different isocyanate molecules

greater than 0.3,

- an allophanate/allophanate + true trimer weight ratio of between 2.5% and 99%,
- the tricondensates are obtained from a tricondensation reaction for which the degree of conversion of the identical or different isocyanate monomer(s) into tricondensate polyfunctional polyisocyanates contained in the composition is greater than 8%,
- at least 1% and not more than 99%, of biuret is present, these amounts being given on a weight basis.